

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-291980

(43)Date of publication of application : 20.10.2000

(51)Int.Cl. F24F 3/147

F25B 9/00

F25B 25/00

F28D 21/00

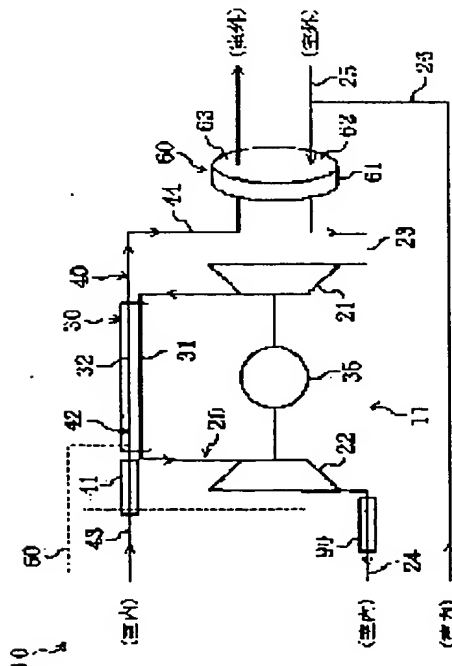
(21)Application number : 11-097742

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(22)Date of filing : 05.04.1999

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## (54) AIR CONDITIONER



### (57)Abstract:

**PROBLEM TO BE SOLVED:** To achieve an effective air-conditioning capacity without using a chlorofluocarbon refrigerant.

**SOLUTION:** A compressor 21, a heat exchanger 30 and an expander 22 are successively connected together to form a first system 20. The first system 20 takes outdoor air and indoor air as first air, cools the first air and supplies to a room. A humidifying pre-cooler 41 and the heat exchanger 30 are successively connected to form a second system 40. The second system 40 takes in the indoor air as second air and performs heat exchange between the first air and the second air, to exhaust outside the air thus obtained. A moisture absorbing part 62 of a dehumidifying mechanism 60 is provided in a first inlet duct 23, and a moisture discharging part 63 is provided in a second inlet duct 43. A rotor member 61 rotates and moves between the moisture absorbing part 62 and the moisture discharging part 63 to absorb moisture from the first air and discharge moisture to the second air. A humidifying cooler 90 is

dehumidifying mechanism 60 is provided in a first inlet duct 23, and a moisture discharging part 63 is provided in a second inlet duct 43. A rotor member 61 rotates and moves between the moisture absorbing part 62 and the moisture discharging part 63 to absorb moisture from the first air and discharge moisture to the second air. A humidifying cooler 90 is

provided in a first outlet duct 24 to further cool the first air from the expander 22 and supply the cooled air to the room.